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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,320	08/10/2001	Hidekazu Kobayashi	110372	4783

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EXAMINER	
ZIMMERMAN, GLENN	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	09/925,320	KOBAYASHI, HIDEKAZU	
	Examiner	Art Unit	
	Glenn Zimmerman	2879	

-- The MAILING DATE f this c mmunication appears on the cover sheet with the correspondenc address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-27* is/are rejected.

7)☒ Claim(s) *17-19 and 25-27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 17-19 and 25-27 are objected to because of the following informalities: In claim 17 line 5, the examiner suggests changing "a substrate" to - - the substrate - -. Appropriate correction is required.

Claims 18, 19 and 25-27 are objected to for depending from an objected base claim.

Claim Rejections - 35 USC § 112

Claims 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25-27 recites the limitation "the electronic apparatus" in line 1. There is insufficient antecedent basis for this limitation in the claim.

A 112 2nd paragraph rejection has been determined for claims 25-27, as written about above. However, a further evaluation of the claim will be done while interpreting "the electronic apparatus having an organic EL device of claim 17," in line 1 as "The organic EL device of claim 17, including an electronic apparatus,".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Shi et al. U.S. Patent 6,075,316.

Regarding claim 17, Shi et al. disclose an organic EL device **(title)**, comprising: a plurality of light-emitting areas **(areas where light emitting layers are)** above a substrate **(ref. 12)**, each of the light-emitting areas having a light-emitting layer **(ref. 26, 28 and 30)** provided between a first electrode layer **(contact pads ref. 20)** and a second electrode layer **(second contact ref. 32)** opposing thereto;

A plurality of non-light emitting areas **(areas located between light emitting layers in figure)** above a substrate, each of the non-light-emitting areas having a non light-emitting layer provided between the plurality of light emitting areas **(ref. 24)**; and

A hole blocking layer **(col. 8 lines 8-15)**, which allows electrons but not holes to pass therethrough, over the light-emitting layers and non light-emitting layers to enhance insulating properties between the plurality of light-emitting areas.

Regarding claim 19, Shi et al. discloses the organic EL device according to claim 17, wherein the first electrode layer is an anode **(ref. 20)** and the second electrode layer

is a cathode **(ref. 32)**, further wherein the anode is provided with a hole injection/transport layer thereon, and the hole blocking layer comprises at least one of an alkalki fluoride and an alkali earth fluoride **(col. 8 lines 8-15)**. The fact that the hole transporting layer is adjacent the contact pad reference 20 and not the second contact ref. 32 indicates inherently that ref. 20 is the anode and ref. 32 is the cathode.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. U.S. Patent 6,075,316 in view of Celii et al. U.S. Patent 6,274,979.

Regarding claim 18, Shi et al. teach all of the limitations of claim 18, but fail to teach a layer composed of a material containing fluorine between the first electrode layer and the light emitting layer. Celli et al. in the analogous art teaches a layer composed of a material containing fluorine between the first electrode layer and the light emitting layer **(Fig. 10-12; col. 4 lines 47-54)**. Additionally, Celii et al. teaches incorporation of such teaches a layer composed of a material containing fluorine between the first electrode layer and the light emitting layer to improve the oled with

increased carrier injection efficiency and increased overall efficiency plus lower voltage operation **(col. 2 lines 13-15)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use teaches a layer composed of a material containing fluorine between the first electrode layer and the light emitting layer in the oled of Shi et al., since such a modification would improve improve the oled with increased carrier injection efficiency and increased overall efficiency plus lower voltage operation as taught by Celii et al.

Regarding claim 20, Shi et al. teaches an electronic apparatus **(col. 1 lines 13-15)** having an organic EL device **(title)** the organic EL device comprising a plurality of light-emitting areas **(areas where 26, 28 and 30 are)** above a substrate **(first substrate ref. 12)**, each of the light-emitting areas having a light-emitting layer **(pixilated emissive organic electron transporting media ref. 26, 28 and 30)** provided between a first electrode layer **(contact pads ref. 20)** and a second electrode layer **(second contact ref. 32)** opposing thereto; a plurality of non light-emitting areas above the substrate **(areas between 26, 28 and 30 and vertically from locations between)**, each of the non light-emitting areas; a hole injection/transport layer **(hole transporting medium ref. 24)** and a hole blocking layer **(col. 8 lines 8-15)**, which allows electrons but not holes to pass therethrough, in both of the light-emitting areas and the non light-emitting areas, but fails to teach a non light-emitting layer provided between the plurality of light emitting areas. Celli et al. in the analogous art teaches a non light-emitting layer provided between the plurality of light emitting areas **(Fig. 10-12; col. 4 lines 47-54)**.

Additionally, Celii et al. teach incorporation of such a non light-emitting layer to improve the oled with increased carrier injection efficiency and increased overall efficiency plus lower voltage operation **(col. 2 lines 13-15)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a non light-emitting layer provided between the plurality of light emitting areas in the oled of Shi et al, since such a modification would improve the oled with increased carrier injection efficiency and increased overall efficiency plus lower voltage operation as taught by Celii et al.

Regarding claim 21, Shi et al. discloses the electronic apparatus having an organic EL device of claim 20 wherein the first electrode is an anode and the second electrode is a cathode. The fact that the hole transporting layer is adjacent the contact pad reference 20 and not the second contact ref. 32 indicates inherently that ref. 20 is the anode and ref. 32 is the cathode.

Regarding claim 22, Shi et al. discloses the electronic apparatus having an organic EL device of claim 21, wherein, the hole injection/transport layer is formed between the first electrode and the light-emitting layer **(Fig. ref. 24)**.

Regarding claim 23, Shi et al. discloses the electronic apparatus having an organic EL device of claim 20, wherein the hole blocking layer is formed over the light-emitting layer **(col. 8 lines 8-15)**.

Regarding claim 24, Shi et al. discloses the electronic apparatus having an organic EL device of claim 20, wherein the hole blocking layer is formed between the cathode and the light-emitting layer **(col. 8 lines 8-15)**.

Regarding claim 25, Shi et al. discloses the organic EL device of claim 17, including an electronic apparatus **(col. 1 lines 13-15; col. 6 lines 34-36)**, wherein the first electrode is an anode and the second electrode is a cathode. The fact that the hole transporting layer is adjacent the contact pad reference 20 and not the second contact ref. 32 indicates inherently that ref. 20 is the anode and ref. 32 is the cathode.

Regarding claim 26, Shi et al. discloses the organic EL device of claim 17, including an electronic apparatus **(col. 1 lines 13-15; col. 6 lines 34-36)**, wherein the hole blocking layer is formed over the light-emitting layer **(col. 8 lines 8-15)**.

Regarding claim 27, Shi et al. discloses the organic EL device of claim 17, including an electronic apparatus **(col. 1 lines 13-15; col. 6 lines 34-36)**, wherein the hole blocking layer is formed between the cathode and the light-emitting layer **(col. 8 lines 8-15)**.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yokoyama U.S. Patent 6,281,634 discloses Color Electroluminescence Display Device. Kijima et al. U.S. Patent 6,633,122 discloses an Electroluminescence Device with Multiple Laminated Bodies Having Common Materials and Process for Producing the Same. Yamada U.S. Patent 6,246,179 discloses an Emissive Element and Display Device Using Such Element. Sakaguchi et al. U.S. Patent 6,366,016 discloses a MultiColor Organic Electroluminescent Panel and Process for Production Thereof. Peng United States Patent Application Publication

2004/00464495 discloses an Organic Electroluminescent Device and Method for Manufacturing the Same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Glenn Zimmerman

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